



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,176	01/31/2002	Erkki Heinonen	2532-00277	9376

26753 7590 09/08/2003

ANDRUS, SCEALES, STARKE & SAWALL, LLP  
100 EAST WISCONSIN AVENUE, SUITE 1100  
MILWAUKEE, WI 53202

EXAMINER

WEISS JR, JOSEPH FRANCIS

ART UNIT	PAPER NUMBER
----------	--------------

3761

DATE MAILED: 09/08/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/062,176

Applicant(s)

HEINONEN, ERKKI

Examiner

Joseph F Weiss Jr.

Art Unit

3761

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.
2. Claims 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 13 recites the limitation "said retaining means" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 & 8-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Weston (US 497944).

In regards to claim 1, Weston discloses a liquid reservoir means for supplying liquid to a nebulizer for atomization comprising a liquid reservoir (interior of tube 75) formed of first and second membranes (walls of 75) positioned in a generally opposing relationship to form a closed chamber between the membranes for containing liquid, (see fig 4) said first and second membranes being formed of a resilient material (note the depiction of them being able to flex), said first and second membranes having opposing surfaces which are contiguous when the chamber is empty and spaced when

Art Unit: 3761

said chamber is filled with liquid (Fig 4) and thereby expanded, the expansion of the chamber distending said resilient material membranes to cause said resilient material membranes to apply pressure to liquid in the said chamber; flow control means in communication with the chamber for controlling the discharge of liquid from the reservoir to the nebulizer under the pressure applied to the liquid by the distended resilient material membranes (valve 76); and a member in the nebulizer having a surface to which one of said first and second membranes is applied, said surface of said member being formed to deform at least one of said first and second membranes to further increase the pressure on the liquid in said chamber (chamber 77 by dint of fluid retained within it and surrounding 75). (See fig 4 & supporting text col. 13 lines 18-col 14 line 2)

In regards to claim 2, Weston discloses the liquid reservoir means according to claim 1 wherein said surface of said member is formed to cause said membranes to progressively contact each other, commencing at a periphery of the membranes and extending toward a center of the membranes. (See fig 4)

In regards to claim 3, Weston discloses a liquid reservoir means according to claim 2 wherein said surface is formed so that a radius of curvature of said surface increases from a periphery of said surface to a center of said surface. (See 75a of fig 4)

In regards to claim 4, Weston discloses a liquid reservoir means according to claim 1 wherein said surface is formed to concavely deform at least one of said first and second membranes when viewed from the exterior of the chamber. (See 75a of fig 4)

Art Unit: 3761

In regards to claim 8, Weston discloses a liquid reservoir means according to claim 1 further comprising means for retaining said liquid reservoir on the nebulizer. (Note the friction fit interface between the reservoir and the nebulizer).

In regards to claim 9, Weston discloses a liquid reservoir means according to claim 1 further including filling means in fluid communication with said chamber by which liquid may be supplied to said chamber. (See elements 73/74)

In regards to claim 10, Weston discloses a liquid reservoir means according to claim 9 wherein said filling means is mounted on a membrane. (Note the interface of 73 w/ 75)

In regards to claim 11, Weston discloses a liquid reservoir means according to claim 9 wherein said filling means contains a valve. (74)

In regards to claim 12, Weston discloses a liquid reservoir means according to claim 9 wherein said filling means comprises a means that is fully capable of engaging a syringe.

In regards to claim 13, Weston discloses a liquid reservoir means according to claim 9 wherein said filling means is mounted on said retaining means. (Note friction fit interface with 77)

In regards to claim 14, Weston discloses a liquid reservoir means according to claim 9 wherein said filling means comprises means mounted on a membrane for drawing the membranes apart to create an underpressure in the chamber formed between said membranes and means mounted on a membrane to admit liquid to said

chamber responsive to said underpressure. (Chamber 77 by dint of fluid retained within it and surrounding 75). (See fig 4 & supporting text col. 13 lines 18-col 14 line 2)

In regards to claim 15, Weston discloses a liquid reservoir means according to claim 14 wherein said means to admit liquid comprises said flow control means. (See fig 4 & supporting text col. 13 lines 18-col 14 line 2).

In regards to claim 16, Weston discloses a liquid reservoir means according to claim 15 wherein said flow control means comprises a valve. (76)

In regards to claim 17, Weston discloses a liquid reservoir means of claim 16 wherein said valve has an inoperative state in which said valve operates as a check valve to prevent discharge of liquid from said chamber and an operative state for allowing the passage of liquid through the valve when said membranes are drawn apart. (See fig 4 & supporting text col. 13 lines 18-col 14 line 2)

In regards to claim 18, Weston discloses a liquid reservoir means of claim 15 wherein said flow control means has an end formed to engage a container for the liquid. (Note interface of conduit within which 76 resides & which interfaces with 77, Fig 4).

In regards to claim 19, Weston discloses a liquid reservoir means of claim 14 wherein said means for drawing said membranes apart comprises a means that is fully capable of being engagable by a hand of a user to draw the membranes apart. (See fig 4 & supporting text col. 13 lines 18-col 14 line 2)

In regards to claim 20, Weston discloses a liquid reservoir means of claim 19 wherein said means engageable by a hand of a user is removable. (See fig 4 & supporting text col. 13 lines 18-col 14 line 2)

In regards to claim 21, Weston discloses a liquid reservoir means of claim 1 further defined as a liquid drug reservoir means. (See fig 4 & supporting text col. 13 lines 18-col 14 line 2)

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weston.

In regards to claim 5, Weston discloses a liquid reservoir means according to claim 1 wherein said flow control means is mounted on one of said first and second membranes, but does not disclose such as being mounted "in" one of the membranes, i.e. a mere reversal or rearrangement of known parts for a known purpose

It is noted that applicant's specification does not set forth this mere reversal/rearrangement of known parts for a known purpose, as unexpectedly providing any new result or unexpectedly solving any new problem in the art over the prior art.

Accordingly, the examiner considers the selection of such to be a mere obvious matter of design choice and as such does not patentably distinguish the claims over the prior art, barring a convincing showing of evidence to the contrary.

In regards to claim 6, Weston discloses a liquid reservoir means according to claim 5 wherein said surface concavely deforms said one of said first and second membranes. (See 75a of fig 4)

In regards to claim 7, Weston discloses a liquid reservoir means according to claim 6 wherein said surface of the nebulizer receives said flow control means.  
(See fig 4 & supporting text col. 13 lines 18-col 14 line 2)

### **Conclusion**


5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6029660, 5957891, 5823179, 5662271, 5515842, 5487378, 4191181, 4047642

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph F Weiss Jr. whose telephone number is 703-305-0323. The examiner can normally be reached on M-F, 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on 703-308-1957. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.

  
Jfweiss  
9/2/03

  
WEILUN LO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700